



# Data Technician

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<b>Course Date: 03/03/2025</b>

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## Day 1: Task 1

Please complete the below boxes on common laws and regulations that must be followed when working with customer data, use the below bulleted list to support your answers.

- What is it
- Why is it important
- Provide a real-world example of how you can follow it
- How does it impact working with data
- What could happen if you breached it

<b>Data Protection Act</b>	<p><b>What is it?</b> The Data Protection Act is a law that regulates how personal data is collected, stored, and processed to protect individuals' privacy.</p> <p><b>Why is it important?</b> It ensures that personal information is handled securely, lawfully, and fairly, preventing misuse and breaches.</p> <p><b>Real-world example:</b> A company encrypting customer data and restricting access to authorized personnel only to comply with the Act.</p> <p><b>Impact on working with data:</b> Organizations must implement security measures, obtain consent for data use, and ensure transparency in data processing.</p> <p><b>What could happen if you breached it:</b> Fines, legal action, reputational damage, and loss of customer trust.</p>
<b>GDPR</b>	<p><b>What is it?</b> The General Data Protection Regulation (GDPR) is an EU law that governs how personal data is collected, processed, and protected.</p> <p><b>Why is it important?</b> It strengthens data privacy rights, ensures transparency, and holds organizations accountable for data protection.</p> <p><b>Real-world example:</b> A company obtaining explicit consent before collecting customer data and allowing users to request data deletion.</p> <p><b>Impact on working with data:</b> Businesses must implement strict security measures, provide clear privacy policies, and allow individuals control over their data.</p> <p><b>What could happen if you breached it:</b> Heavy fines, legal penalties, reputational damage, and potential loss of business.</p>

<b>Freedom of Information Act</b>	<p><b>What is it?</b> The Freedom of Information Act (FOIA) is a law that gives the public the right to access information held by public authorities.</p> <p><b>Why is it important?</b> It promotes transparency, accountability, and public trust in government and public sector organisations.</p> <p><b>Real-world example:</b> A journalist requesting government spending records to investigate how public funds are used.</p> <p><b>Impact on working with data:</b> Public organisations must maintain accurate records and respond to information requests within legal timeframes.</p> <p><b>What could happen if you breached it:</b> Legal action, fines, reputational damage, and loss of public trust.</p>
<b>Computer Misuse Act</b>	<p><b>What is it?</b> The Computer Misuse Act is a law that protects computer systems from unauthorised access, hacking, and cybercrimes.</p> <p><b>Why is it important?</b> It helps prevent cyberattacks, data theft, and malicious activities, ensuring the security of digital systems.</p> <p><b>Real-world example:</b> A company implementing strong passwords and access controls to prevent unauthorised entry into its systems.</p> <p><b>Impact on working with data:</b> Employees must follow cybersecurity policies, avoid unauthorised access, and use data responsibly.</p> <p><b>What could happen if you breached it:</b> Criminal charges, fines, imprisonment, job loss, and reputational damage.</p>

## Day 2: Task 1



Please research and complete the following tasks within the retail-sales\_dataset.xlsx document, paste a print screen into the provided boxes below:

1. In the sheet 'retail\_sales\_dataset' add all available data between columns **A – H** into a 'table'
2. Using the 'filter' function, filter 'Age' to 'largest to smallest'
3. Using the 'SUM' function, show me the commission total in cell '**P10**'
4. Using the 'AVERAGE' function, show me the average commission in cell '**P11**'

Print screen 1

Transaction ID	Day	Month	Year	Date	Customer ID	Gender	Age	Generation	Product Category	Concatenate	Quantity	Price per Unit	Total Sales	Commission
1	1	24	11	2023	11/24/2023 CUST001	Male	34	#SPILL!	Beauty	#SPILL!	3	50	150 €	
2	2	27	2	2023	2/27/2023 CUST002	Female	26		Clothing		2	500	1000 €	
3	3	13	1	2023	1/13/2023 CUST003	Male	50		Electronics		1	30	30 €	
4	4	21	5	2023	5/21/2023 CUST004	Male	37		Clothing		1	500	500 €	
5	5	6	5	2023	5/6/2023 CUST005	Male	20		Beauty		2	50	100 €	
6	6	25	4	2023	4/25/2023 CUST006	Female	45		Beauty		1	30	30 €	
7	7	13	3	2023	3/13/2023 CUST007	Male	46		Clothing		2	25	50 €	
8	8	22	2	2023	2/22/2023 CUST008	Male	30		Beauty		4	25	100 €	
9	9	13	12	2023	12/13/2023 CUST009	Male	63		Electronics		2	300	600 €	
10	10	7	10	2023	10/7/2023 CUST010	Female	52		Clothing		4	50	200 €	
11	11	14	2	2023	2/14/2023 CUST011	Male	23		Clothing		2	50	100 €	
12	12	30	10	2023	10/30/2023 CUST012	Male	35		Beauty		3	25	75 €	
13	13	5	8	2023	8/5/2023 CUST013	Male	22		Electronics		3	500	1500 €	
14	14	17	1	2023	1/17/2023 CUST014	Male	64		Clothing		4	30	120 €	
15	15	16	1	2023	1/16/2023 CUST015	Female	42		Electronics		4	500	2000 €	
16	16	17	2	2023	2/17/2023 CUST016	Male	19		Clothing		3	500	1500 €	
17	17	22	4	2023	4/22/2023 CUST017	Female	27		Clothing		4	25	100 €	
18	18	30	4	2023	4/30/2023 CUST018	Female	47		Electronics		2	25	50 €	
19	19	16	9	2023	9/16/2023 CUST019	Female	62		Clothing		2	25	50 €	
20	20	5	11	2023	11/5/2023 CUST020	Male	22		Clothing		3	300	900 €	
21	21	14	1	2023	1/14/2023 CUST021	Female	50		Beauty		1	500	500 €	
22	22	15	10	2023	10/15/2023 CUST022	Male	18		Clothing		4	50	200 €	
23	23	12	4	2023	4/12/2023 CUST023	Female	35		Clothing		4	30	120 €	
24	24	29	11	2023	11/29/2023 CUST024	Female	49		Clothing		1	300	300 €	
25	25	26	12	2023	12/26/2023 CUST025	Female	64		Beauty		1	50	50 €	
26	26	7	10	2023	10/7/2023 CUST026	Female	28		Electronics		2	500	1000 €	
27	27	3	8	2023	8/3/2023 CUST027	Female	38		Beauty		2	25	50 €	
28	28	23	4	2023	4/23/2023 CUST028	Female	43		Beauty		1	500	500 €	
29	29	18	8	2023	8/18/2023 CUST029	Female	42		Electronics		1	50	50 €	
30	30	29	10	2023	10/29/2023 CUST030	Female	39		Beauty		3	300	900 €	
31	31	23	5	2023	5/23/2023 CUST031	Male	44		Electronics		4	300	1200 €	
32	32	4	1	2023	1/4/2023 CUST032	Male	50		Beauty		3	50	150 €	

Print screen 2

Transaction ID	Day	Month	Year	Date	Customer ID	Gender	Age	Generation	Product Category	Concatenate	Quantity	Price per Unit	Total Sales	Commission
1	14	17	1	2023	1/17/2023 CUST014	Male	64		Clothing		4	30	120 €	
2	25	26	12	2023	12/26/2023 CUST025	Female	64		Beauty		1	50	50 €	
3	80	30	12	2023	12/30/2023 CUST080	Female	64		Clothing		2	50	100 €	
4	122	3	10	2023	10/3/2023 CUST122	Male	64		Electronics		4	30	120 €	
5	161	22	3	2023	3/22/2023 CUST161	Male	64		Beauty		2	500	1000 €	
6	163	2	1	2023	1/2/2023 CUST163	Female	64		Clothing		3	50	150 €	
7	173	8	11	2023	11/8/2023 CUST173	Male	64		Electronics		4	30	120 €	
8	187	7	6	2023	6/7/2023 CUST187	Female	64		Clothing		2	50	100 €	
9	191	18	10	2023	10/18/2023 CUST191	Male	64		Beauty		1	25	25 €	
10	218	22	9	2023	9/22/2023 CUST218	Male	64		Beauty		3	30	90 €	
11	220	3	3	2023	3/3/2023 CUST220	Male	64		Beauty		1	500	500 €	
12	223	2	2	2023	2/2/2023 CUST223	Female	64		Clothing		1	25	25 €	
13	262	25	8	2023	8/25/2023 CUST262	Female	64		Electronics		4	50	200 €	
14	363	3	6	2023	6/3/2023 CUST363	Male	64		Beauty		1	25	25 €	
15	376	16	5	2023	5/16/2023 CUST376	Female	64		Beauty		1	30	30 €	
16	399	1	3	2023	3/1/2023 CUST399	Female	64		Beauty		2	30	60 €	
17	406	35	4	2023	4/15/2023 CUST406	Female	64		Beauty		1	500	500 €	
18	429	28	12	2023	12/28/2023 CUST429	Male	64		Electronics		2	25	50 €	
19	440	26	10	2023	10/26/2023 CUST440	Male	64		Clothing		2	300	600 €	
20	473	25	2	2023	2/25/2023 CUST473	Male	64		Beauty		1	50	50 €	
21	532	19	6	2023	6/19/2023 CUST532	Female	64		Clothing		4	30	120 €	
22	561	27	5	2023	5/27/2023 CUST561	Female	64		Clothing		4	500	2000 €	
23	566	2	12	2023	12/2/2023 CUST566	Female	64		Clothing		1	30	30 €	
24	596	7	2	2023	2/7/2023 CUST596	Female	64		Electronics		1	300	300 €	
25	692	7	9	2023	9/7/2023 CUST692	Female	64		Clothing		2	50	100 €	
26	698	19	7	2023	7/19/2023 CUST698	Female	64		Electronics		1	300	300 €	
27	735	4	10	2023	10/4/2023 CUST735	Female	64		Clothing		4	500	2000 €	
28	758	12	5	2023	5/12/2023 CUST758	Male	64		Clothing		4	25	100 €	
29	830	22	6	2023	6/22/2023 CUST830	Female	64		Clothing		3	50	150 €	
30	882	6	6	2023	6/6/2023 CUST882	Female	64		Electronics		2	25	50 €	
31	897	26	9	2023	9/26/2023 CUST897	Female	64		Electronics		2	50	100 €	
32	9	11	19	2023	19/11/2023 CUST9	Male	20		Electronics		2	500	1000 €	



**Print screen 3**

Table Design									
K		L	M	N	O	P	Q	R	S
Conca	Quantity	Price per Unit	Total Sales	Commission 2023	Commission 2024	Commission 2025	Column1	Column2	Column3
#SPILL!	3	50	150 £	2.25 £	3.00				
	2	500	1000 £	15.00 £	20.00				
	1	30	30 £	0.45 £	0.60				
	1	500	500 £	7.50 £	10.00				
	2	50	100 £	1.50 £	2.00				
	1	30	30 £	0.45 £	0.60				
	2	25	50 £	0.75 £	1.00				
	4	25	100 £	1.50 £	2.00			2023	
	2	300	600 £	9.00 £	12.00		Sum >	£ 6,840.00	
	4	50	200 £	3.00 £	4.00		Average >	£ 6.84	
	2	50	100 £	1.50 £	2.00				
	3	25	75 £	1.13 £	1.50				2024
	3	500	1500 £	22.50 £	30.00		Sum >	£ 9,120.00	
	4	30	120 £	1.80 £	2.40		Average >	£ 9.12	
	4	500	2000 £	30.00 £	40.00				
	3	500	1500 £	22.50 £	30.00				
	4	25	100 £	1.50 £	2.00				
	2	25	50 £	0.75 £	1.00				
	2	25	50 £	0.75 £	1.00				
	3	300	900 £	13.50 £	18.00				
	1	500	500 £	7.50 £	10.00				
	2	50	100 £	1.50 £	2.00				
	4	30	120 £	1.80 £	2.40				
	1	300	300 £	4.50 £	6.00				

**Print screen 4**

Table Design									
Accounting									
P:P)									
K	L	M	N	O	P	Q	R	S	
Conca	Quanti	Price per Unit	Total Sales	Commission 2023	Commission 2024	Commission 2025	Column1	Column12	
#SPILL!	3	50	150 £	2.25 £	3.00				
	2	500	1000 £	15.00 £	20.00				
	1	30	30 £	0.45 £	0.60				
	1	500	500 £	7.50 £	10.00				
	2	50	100 £	1.50 £	2.00				
	1	30	30 £	0.45 £	0.60				
	2	25	50 £	0.75 £	1.00				
	4	25	100 £	1.50 £	2.00				2023
	2	300	600 £	9.00 £	12.00		Sum > £	6,840.00	
	4	50	200 £	3.00 £	4.00		Average > £	6.84	
	2	50	100 £	1.50 £	2.00				
	3	25	75 £	1.13 £	1.50				2024
	3	500	1500 £	22.50 £	30.00		Sum > £	9,120.00	
	4	30	120 £	1.80 £	2.40		Average > £	9.12	
	4	500	2000 £	30.00 £	40.00				
	3	500	1500 £	22.50 £	30.00				
	4	25	100 £	1.50 £	2.00				
	2	25	50 £	0.75 £	1.00				
	2	25	50 £	0.75 £	1.00				
	3	300	900 £	13.50 £	18.00				
	1	500	500 £	7.50 £	10.00				
	2	50	100 £	1.50 £	2.00				
	4	30	120 £	1.80 £	2.40				
	1	300	300 £	4.50 £	6.00				
	1	50	50 £	0.75 £	1.00				

## Day 2: Task 2

Please research and complete the following tasks within the retail-sales\_dataset.xlsx document in Task 2 worksheet, paste print screens into the provided box below:

Student name	English	Mathematic	Science	Average	Highest score	
Carol	75	85	85			
Ted	80	75	90			
Khan	85	75	80			
Harry	80	70	80			
Sarah	80	70	80			
John	65	80	70			
Linda	90	50	70			
Edward	55	80	60			
Mary	55	70	65			
Thomas	55	30	65			
Task						
1) Apply filter and sorting to show the best students in each subject.						
2) Calculate the average for all students and fill into Column E. (Use formula)						
3) Using the =MAX fucntion, tell me what the students highest score was in column F.						
4) Apply filter and sorting to show the best student in this classroom by average.						
5) Apply filter and sorting to show the best student in this classroom by highest score.						
6) Use conditional formatting to clearly identify the highest and lowest average scores						

Print screen 1

1	Student name	English	Mathematics	Science	Average	Highest score	highest and lowest average scores	does the student require extra support
2	Ted	80	75	90	81.66666667	90	High	No
3	Carol	75	85	85	81.66666667	85	High	No
4	Khan	85	75	80	80.00000000	85	High	Yes
5	Harry	80	70	80	76.66666667	80	Low	Yes
6	Sarah	80	70	80	76.66666667	80	Low	Yes
7	John	65	80	70	71.66666667	80	Low	Yes
8	Linda	90	50	70	70.00000000	90	Low	No
9	Edward	55	80	60	65.00000000	80	Low	Yes
10	Mary	55	70	65	63.33333333	70	Low	Yes
11	Thomas	55	30	65	50.00000000	65	Low	Yes

Task

1) Apply filter and sorting to show the best students in each subject. English - Linda Maths - Carol Science - Ted

2) Calculate the average for all students and fill into Column E. (Use formula)

3) Using the =MAX function, tell me what the students highest score was in column F.

4) Apply filter and sorting to show the best student in this classroom by average. Ted

5) Apply filter and sorting to show the best student in this classroom by highest score. Ted & Linda

6) Use conditional formatting to clearly identify the highest and lowest average scores

## Day 3: Task 1

Please download the dataset 'Day\_3\_Task\_1\_Bike\_Sales\_Pivot\_Lab.xlsx' from [here](#).

The lab instructions can be found [here](#). Do not worry if you do not complete the lab, just working with data and playing with the pivot table will be good experience.

Please paste your final pivot table below and complete the reflection questions:

Print screen 1

1	A	B	C	D	E	F	G	H	I	J	K	L	M
2													
3	Sum of Order_Quantity	Country											
4	Age_Group	Customer_Gender	Australia	Canada	France	Germany	United States	United Kingdom	United States	United States	Grand Total		
5	Youth (<25)		11	0	10	0	0	6	0	0	27		
6	Young Adults (25-34)		20	11	10	0	0	4	16	0	61		
7	Adults (35-64)		32	0	0	13	2	4	47	1	99		
8	Grand Total		63	11	20	13	2	14	63	1	187		

Sales Summary



In which markets do Germany have customers?	Mountain Bikes
What country has sales in all markets?	Australia, United Kingdom
What are the most profitable markets by country, age group, and gender?	Country - Australia Age Group - Adults (35-64) Gender - Female
Any other findings?	People in the United States don't cycle much.

## Day 3: Task 2

The dataset below tracks the sales performance of different products in various counties in England. Please paste the dataset into a blank Excel workbook. Your task is to:

- **Create a Pivot Table** to summarise the data by county and product.
- **Use the SWITCH function** to categorise products based on their sales volume.



### Dataset:

County	Product	Sales Volume
Yorkshire	Laptops	500
Yorkshire	Smartphones	200
Cornwall	Laptops	700
Cornwall	Printers	400
Lancashire	Smartphones	150
Lancashire	Laptops	600
Essex	Printers	800
Essex	Smartphones	300
Durham	Laptops	250
Durham	Printers	300
Greater Manchester	Smartphones	600
Greater Manchester	Laptops	400

### Step 1: Create a Pivot Table

- Select the dataset (columns A to C).
- Insert a Pivot Table to summarise the data by **County** in the rows and **Products** in the columns. Use **Sales Volume** as the value to be summarised.

### Step 2: Use the SWITCH Function

In a new column next to your data, use the SWITCH function to categorise products based on **Sales Volume** as follows:

- For sales greater than 600: "**High**"
- For sales between 300 and 600: "**Medium**"
- For sales less than 300: "**Low**"

### SWITCH Function Example:

```
=SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium", "Low")
```

- Apply this formula to each row, and check if the products are categorised correctly.

## Submission:

- A completed Pivot Table summarising sales by county and product.
- A new column in the dataset categorising products by sales volume using the SWITCH function.
  - Please paste your completed work below

Print screen 1

File Home Insert Share Page Layout Formulas Data Review View Help Dr									
Aptos Narrow ... 11 A <sup>+</sup> A <sup>-</sup> B I U    A <sup>+</sup> A <sup>-</sup>									
E2    Grand Total									
	A	B	C	D	E	F	G	H	
1	Sum of Sales Volume	Product							
2	County	Laptops	Printers	Smartphones	Grand Total				
3	Cornwall	700	400	0	1100				
4	Durham	250	300	0	550				
5	Essex	0	800	300	1100				
6	Greater Manchester	400	0	600	1000				
7	Lancashire	600	0	150	750				
8	Yorkshire	500	0	200	700				
9	Grand Total	2450	1500	1250	5200				
10									
11									
12									
13									

File Home Insert Share Page Layout Formulas Data Review View Help Dr									
Aptos Narrow ... 11 A <sup>+</sup> A <sup>-</sup> B I U    A <sup>+</sup> A <sup>-</sup>									
F13									
	A	B	C	D	E	F	G	H	
1	County	Product	Sales Volume	Sales Volume	SWITCH function				
2	Yorkshire	Laptops	500	500	Medium				
3	Yorkshire	Smartphones	200	200	Low				
4	Cornwall	Laptops	700	700	High				
5	Cornwall	Printers	400	400	Medium				
6	Lancashire	Smartphones	150	150	Low				
7	Lancashire	Laptops	600	600	Medium				
8	Essex	Printers	800	800	High				
9	Essex	Smartphones	300	300	Medium				
10	Durham	Laptops	250	250	Low				
11	Durham	Printers	300	300	Medium				
12	Greater Manchester	Smartphones	600	600	Medium				
13	Greater Manchester	Laptops	400	400	Medium				
14									
15									



## Day 3: Task 3

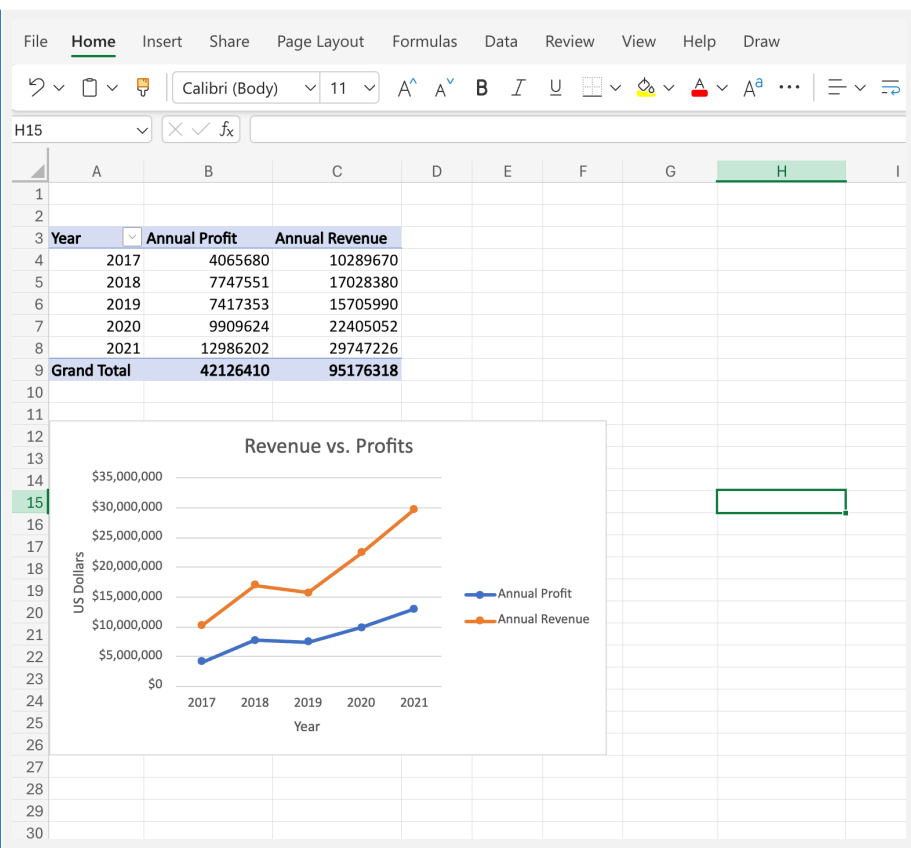
Please download the dataset

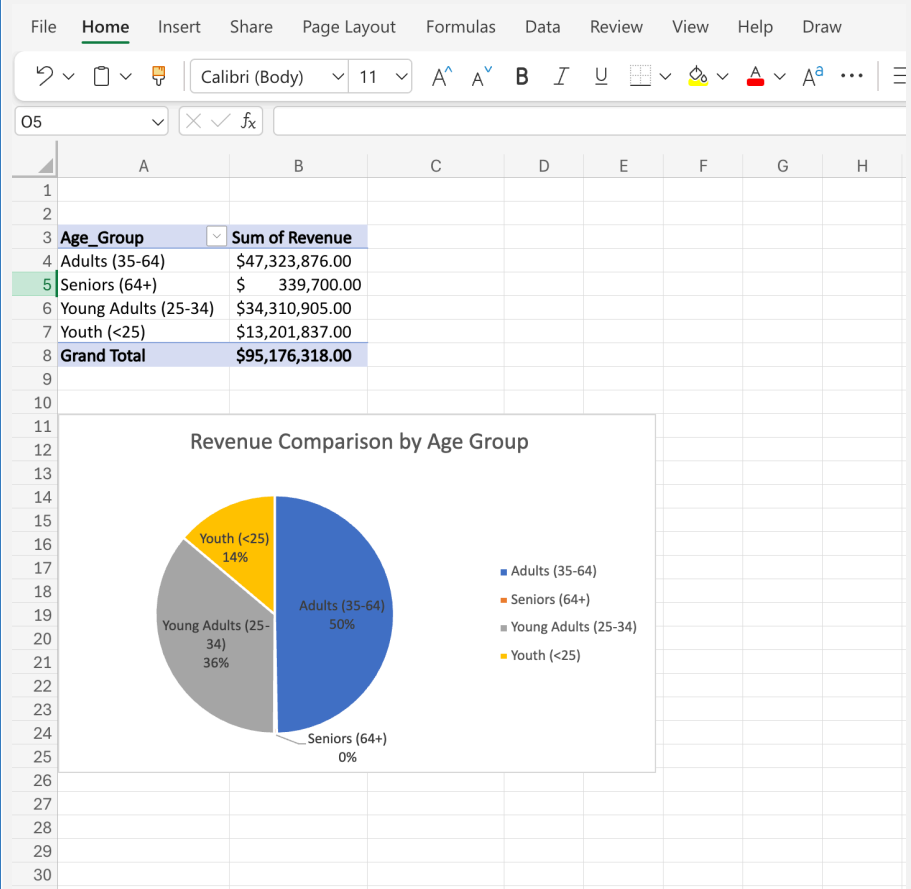
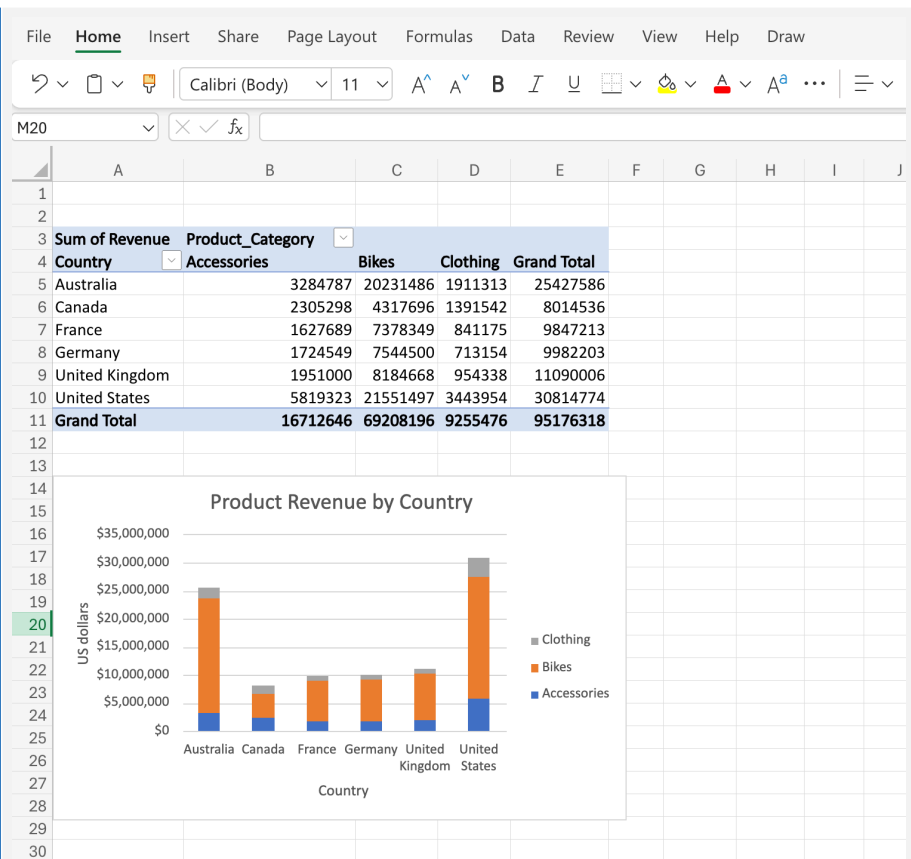
'Day\_3\_Task\_3\_Bike\_Sales\_Visualisations\_Lab.xlsx' from [here](#).

The lab instructions can be found [here](#). Do not worry if you do not complete the lab, just working with data and playing with the charts will be good experience.

Please paste your results below:

Print screen 1

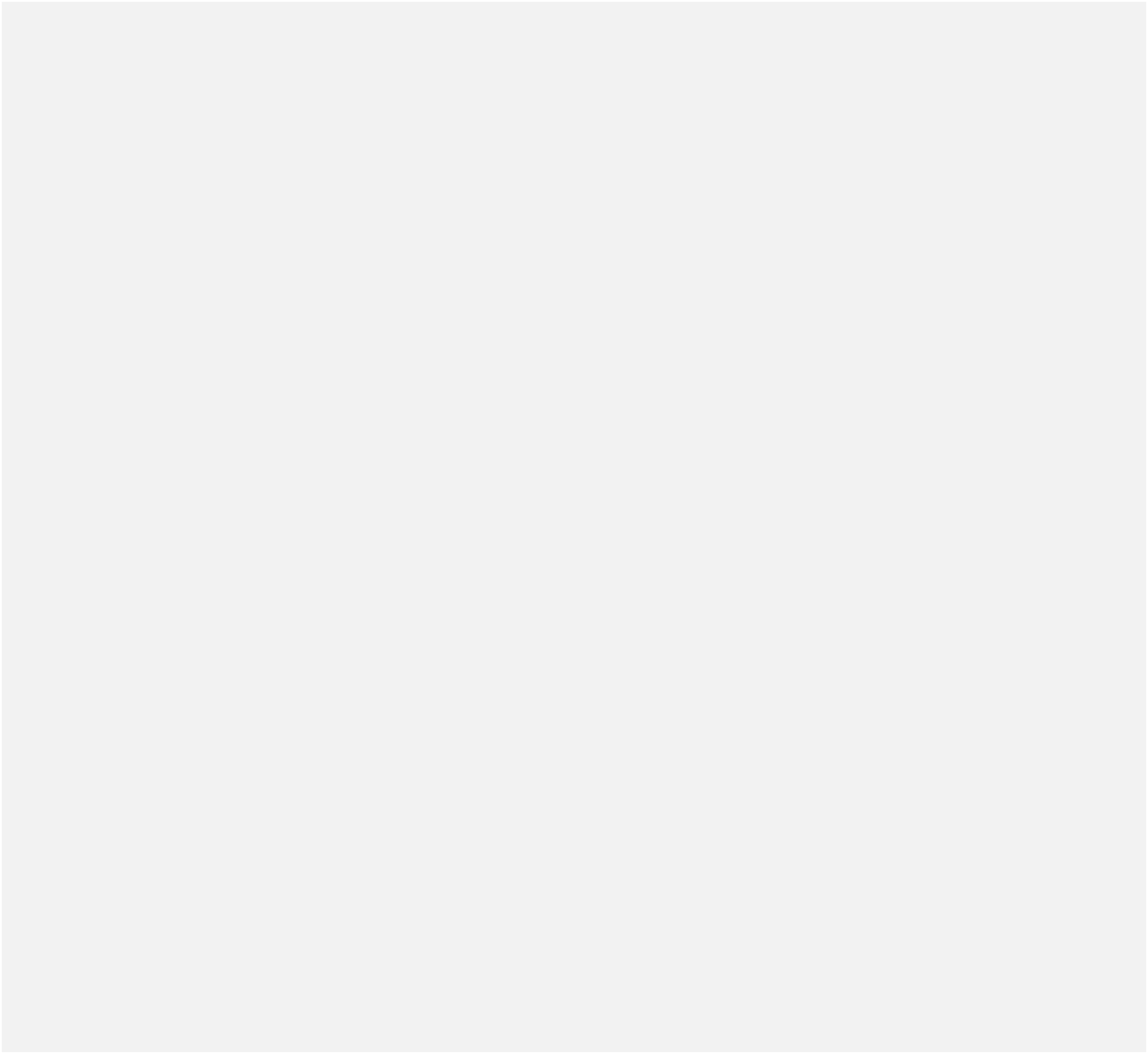




## Course Notes

It is recommended to take notes from the course, use the space below to do so, or use the revision guide shared with the class:





We have included a range of additional links to further resources and information that you may find useful, these can be found within your revision guide.

### **END OF WORKBOOK**

**Please check through your work thoroughly before submitting and update the table of contents if required.**

**Please send your completed work booklet to your trainer by submitting in MS Teams Assignment page.**

